1998 Washington State Population Survey

TECHNICAL REPORT #3 – Notes on Constructed Variables

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Forecasting

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THIS REPORT is one of several technical appendices prepared by the Office of Financial Management to supplement the 1998 Washington State Population Survey (SPS). The survey was funded by the 1997 Legislature to provide social, demographic, and economic information about Washington residents that would otherwise not be available between the 1990 and 2000 federal census years. A background report on the SPS titled, *1998 Washington State Population Survey Data Report* (September 21, 1998), is available electronically at http://www.wa.gov/ofm/ under Population/Data, or by calling OFM at (360) 902-0599.

Responses to the survey were obtained from telephone interviews of 7,279 households which represent the state population as a whole. The survey was designed by OFM and conducted by the Washington State University Social and Economic Sciences Research Center (SESRC). Telephone interviews were conducted in Spring 1998.

Constructed Variables

The analysis file of the 1998 Washington State Population Survey released on September 21, 1998 contains more than 200 variables. Most of the variables correspond to their respective questions in the SPS questionnaire. There are, however, 43 variables in the analysis data file that have been constructed either as imputation flags, composite variables, or replacements to some existing variables (due to questionnaire design limitations). The following is a description of how these variables were constructed.

Variable	Note
Q2P6_I	Imputation flag for question Q2P6 (sex). There were 24 person records in which the sex could not be identified with existing information. These 24 cases were randomly assigned either male or female. For these 24 cases, the value of "1" was assigned for Q2P6_I. All other cases were assigned the value "2". See Technical Report No. 2 for more information on imputation of the SEX variable.
AGE	Household member's age. The AGE variable was constructed by subtracting the birthdate (Q2P7M, Q2P7D, Q2P7Y) from the interview date. This arithmatic operation requires that all three birthdate elements (month, day, and year) be non-missing. If any of the three was a "Refusal" or "Don't Know," then a valid answer in question Q2P8 ("How old are you?") was used. See Technical Report No. 2 for more information on imputation of the AGE variable.
AGE_I	Imputation flag for AGE. If age was assigned using the procedure described above,

	then AGE_I was assigned the value "1". Otherwise it was assigned the value "2".
AGECAT	This is a recode of the AGE variable. In the AGE variable, the value ranged from 0 to 102. In AGECAT, it was recoded: 1=0-9 years old 2=10-19 years old 3=20-29 years old 4=30-39 years old 5=40-49 years old 6=50-59 years old 7=60-69 years old 8=70-79 years old 9=80 years old or older
Q2P16_I	Imputation flag for Q2P16 (Hispanic origin). The imputation of Hispanic origin cases involved two major parts. The first part dealt with the cases in which the person's race (Q2P13) was described as the "other" category. The second part dealt with the cases in which either the information given was not enough to identify the Hispanic origin or there was no information at all. For more information on the imputation of the Q2P16, see Technical Report No. 2. If the Hispanic origin status was assigned using this procedure then Q2P16_I = 1. Otherwise, Q2P16_I was assigned the value "2".
Q2P13_I	Imputation flag for Q2P13 (Race). The imputation of race involved two major parts. The first part dealt with the cases in which the person's race (Q2P13) was described as the "other" category. The second part dealt with the cases in which either the information given was not enough to identify the race or there was no information at all. For more information on imputation of Q2P13, see Technical Report No. 2. If the racial status was assigned using this procedure then Q2P13_I = 1. Otherwise, Q2P13_I was assigned the value "2".
CITIZEN	Household member's U.S. citizenship status. The CITIZEN variable was the result of combining Q2P18 ("Were you born a U.S. citizen?") and Q2P21 ("Are you a U.S. citizen now?"). Q2P18 was asked of all household members and Q2P21 was asked of those members who were not born U.S. citizens. If the answer to either question was a "Yes," then the value "1" was assigned to CITIZEN. If the answer was "No" to both questions, then the value "2" was assigned to CITIZEN.
PLACE1YR	Place lived one year ago if it was not the same as the current one. PLACE1YR originated from Q223P ("One year ago, that is on March 1, 1997, were you living in the same Washington county?") and Q2P23 ("Were you living in another county in Washington, another state or U.S. territory, or another country?"). Both questions were asked of the respondent only. However, two follow-up questions were asked to obtain the previous year's residency of other members. These two questions are Q2P25 ("Did <other members> live with you 1 year ago?") and Q2P26 ("Which of the other members of the household did not live with you 1 year ago?"). The PLACE1YR contains four non-missing categories: 1 = other Washington county (from Q2P23) 2 = other state (Q2P23)

	3 = other country (2P23) 4 = same Washington county (Q223P) Information from Q2P25 and Q2P26 was used to assign these values to other household members in PLACE1YR.
CONTY1YR	Recodes of CONTY – county lived in one year ago. CONTY was a character variable and CONTY1YR is a numeric variable as all other variables in the analysis file.
OWNBUS	Own a business or farm. It was created to replace Q4P2 ("Whose business or farm is it?"). Whereas Q4P2 was a respondent-only variable and recorded the person numbers of persons in the household who owned a business or farm, OWNBUS is a person variable for all adults in the household. If a person owned a business or farm, then the value of "1" was assigned. Otherwise, the value "2" was assigned for "does not own a business or farm."
MAJIND98	Major I Industry recodes for the current main job. It contains recodes of industry codes for current main job recorded in Q4P10. MAJIND98 has 7 categories: **MAJIND98 CODES** — **Q4P10 CODES** 1 = Agriculture, Forestry, and Fishery — 1 2 = Manufacturing — 2-11 3 = Construction and Mining — 12 4 = Transportation, Communication, and Utility — 13-15 5 = Wholesale and Retail — 16-21 6 = Finance, Insurance, and Real Estate — 22-24 7 = Services — 25-35
HOURWEEK	Hours worked per week at all (last week's) jobs. This variable took the sum of values from Q4P8 ("How many hours do you usually work at your main job?") and Q4P17 ("How many hours per week do you usually work at all other jobs?"). An upper limit was set at 120 hours for the combined hours from these two questions.
WGWK1ST	Weekly earnings from last week's main job. This variable involved Q4P14 ("Excluding overtime pay, tips and commissions, what are your earnings from this job, before taxes and other deductions?"), UNIT (for Q4P14), Q4P15 (What is your best estimate of how much you usually earn from this job, just in overtime pay, tips, or commissions, before taxes and other deductions?"), and UNIT2 (for Q4P15). First, earnings from Q4P14 and Q4P15 were converted to weekly earnings if they were reported in units other than weekly. Then the sum of weekly earnings from Q4P14 and Q4P15 was taken. The following conversions were used to convert the earnings from Q4P14 and Q4P15 into weekly earnings if they were reported in units other than weekly: **ORIGINAL UNIT** — **TO GET WEEKLY** Yearly — divided by 52 Monthly — divided by 4.3 Twice a month — divided by 2.1 Every two weeks — divided by 2 Hourly — times the value from Q4P8 (hours/week)
WGHR1ST	Hourly earnings from last week's main job. The value of this variable was obtained by

	dividing WGWK1ST (weekly earnings from last week's main job) by Q4P8 (usual hours worked per week at last week's main job).
WGWKOTH	Weekly earning from last week's other jobs. This variable involved Q4P18 ("Excluding overtime pay, tips and commissions, what are your earnings from all other jobs, before taxes and other deductions?"), UNIT3 (for Q4P18), Q4P19 ("What is your best estimate of how much you usually earn from all other jobs, just in overtime pay, tips, or commissions, before taxes and other deductions?"), and UNIT4 (for Q4P19). First, earnings from Q4P18 and Q4P19 were converted to weekly earnings if they were reported in units other than weekly. Then the sum of weekly earnings from Q4P18 and Q4P19 was taken. The following were used to convert the earnings from Q4P18 and Q4P19 into weekly earnings if they were reported in units other than weekly: **ORIGINAL UNIT** — **TO GET WEEKLY** Yearly — divided by 52 Monthly — divided by 4.3 Twice a month — divided by 2.1 Every two weeks — divided by 2 Hourly — times the value from Q4P8 (hours/week)
WGHROTH	Hourly earnings from last week's other jobs. The value of this variable was obtained by dividing WGWKOTH (weekly earnings from all last week's other jobs) by Q4P17 (usual hours worked per week at all last week's other jobs).
MAJIND97	Major industry recodes for the main job in 1997. It contains recodes of industry codes for the main job in 1997 recorded in Q5P11. MAJIND97 has 7 categories: **MAJIND97 CODES** — **Q5P11 CODES** 1 = Agriculture, Forestry, and Fishery — 1 2 = Manufacturing — 2-11 3 = Construction and Mining — 12 4 = Transportation, Communication, and Utility — 13-15 5 = Wholesale and Retail — 16-21 6 = Finance, Insurance, and Real Estate — 22-24 7 = Services — 25-35
PPNWAGE	1997 personal non-wage income. The calculation of personal non-wage income involved first counting the number of people in the household that contributed to such income (WHO2). Then this number was used to divide the total non-wage household income (NWAGEINC). The personal non-wage income in PPNWAGE is therefore the average non-wage income of those who contributed to the household non-wage income.
PEARN97	1997 personal earnings. It is the sum of Q6P1A (earnings from the longest job in 1997 before taxes) and Q6P4A (earnings from all other jobs in 1997) minus Q6P3 (amount lost in the longest job in 1997).
WAGEHR97	Hourly wage in 1997 from all jobs. WAGEHR97 was calculated by dividing WAGEWK97 (weekly wage in 1997 from all jobs) with usual hours worked per week in 1997 (Q5P7).
WAGEWK97	Weekly wage in 1997 from all jobs. WAGEWK97 was calculated by dividing the sum of all wage earnings (sum of Q6P1A and Q6P4A) by the number of weeks worked in 1997

	(Q5P1).
HHINC	1997 household total income. Several variables contributed to the construction of HHINC. Q6P9 (exact household income in 1997) was checked first. If Q6P9 was missing, then Q6P8A (household income reported in ranges) was used to estimate the exact household income. If both Q6P9 and Q6P8A were missing, the missing value was retained in HHINC. An additional adjustment was made to HHINC to correct inconsistency between household earnings and household income. If the total household income (HHINC) was less than total household earnings (HHEARN97), then HHINC was set to equal HHEARN97.
HHINC_I	Imputation flag for 1997 household income (HHINC). In calculating HHINC, if Q6P9 (exact household income 1997) was missing, then Q6P8A (household income reported in ranges) was used to estimate the exact household income. If an income value was assigned using this procedure for HHINC, the HHINC_I was assigned the value of "1". Otherwise, HHINC_I was assigned "2". An imputation procedure will be performed to calculate income for the remaining households with missing income information.
HHEARN97	1997 household total earnings. This variable was constructed by summing personal earnings (PEARN97) of all members in a household.
NWAGEINC	1997 household non-wage income. The non-wage income is the difference between total household income (HHINC) and total household earnings (HHEARN97).
FAMINC97	Family income 1997. The family income was obtained by summing the wage earnings (PEARN97) and non-wage income (PPNWAGE) for all members in a family.
POVLEV	1997 family income as percent of the Federal Poverty Level (FPL). The U.S. Census Bureau's Poverty Thresholds for 1997 were used in the construction of POVLEV. (See Appendix 1 for the poverty thresholds.)
POVCAT	Recodes of family poverty level in 1997 (POVLEV). POVCAT contains 5 categories recoded from POVLEV: 1 = 0-99% of the federal poverty level (FPL) 2 = 100-199% of FPL 3 = 200-299% of FPL 4 = 300-399% of FPL 5 = 400% of FPL or higher
INS_EMP	Covered by employer or union provided health plan (originally Q7P3A). Question Q7P3A was first only asked of the respondent. After all health insurance-related questions were asked of the respondent, a follow-up question (Q7P3Z) was asked: whether other members had the same plans as the respondent. If the answer to this follow-up question was "yes," then the insurance questions were skipped for other members. If the answer was no, then another follow-up question (WHICH) asked who did not have the same plans as the respondent. Those who did not have the same plans as the respondent were asked what plans they had. INS_EMP was constructed to include all persons. Therefore, those members who had same plans as the respondent and were skipped were now assigned the same value as the respondent in INS_EMP. For those who did not have the same plans as the respondent, questions Q7PZA1

	(employer provided plan) and Q7PZA2 (union paid plan) were used to form INS_EMP. If a respondent reported that not all the members had the same plans and only mentioned some of the other members as not having the same plans, those who were not mentioned were considered to have the same plans as the respondent.
INS_MDCR	Covered by Medicare (originally Q7P3C). The description for INS_EMP applies to INS_MDCR except that INS_MDCR is for Medicare. For those who did not have same plans as the respondent, question Q7PZA3 was used to form INS_MDCR.
INS_MDCD	Covered by Medicaid (originally Q7P3D). The description for INS_EMP applies to INS_MDCD except that INS_MDCD is for Medicaid. For those who did not have same plans as the respondent, question Q7PZA4 was used to form INS_MDCD.
INS_OWN	Covered by a health plan bought on own (originally Q7P3E). The description for INS_EMP applies to INS_OWN except that INS_OWN is for self-purchased plans. For those who did not have same plans as the respondent, question Q7PZA5 was used to form INS_OWN.
INS_MAA	Covered by other Medical Assistance Administration programs (originally Q7P3D and Q7P3F). The description for INS_EMP applies to INS_MAA except that INS_MAA is for Medicaid and other medical programs administered by the DSHS' Medical Assistance Administration. For those who did not have same plans as the respondent, questions Q7PZA4 and Q7PZA6 were used to form INS_MAA.
INS_MIL	Covered by a military plan (originally Q7P3G). The description for INS_EMP applies to INS_MIL except that INS_MIL is for military plans. For those who did not have same plans as the respondent, question Q7PZA7 was used to form INS_MIL.
INS_BHP	Covered by the Basic Health Plan (originally Q7P3I). The description for INS_EMP applies to INS_BHP except that INS_BHP is for the Washington Basic Health Plan administered by the Health Care Authority. For those who did not have same plans as the respondent, question Q7PZA9 was used to form INS_BHP.
INS_OUT	Covered by a plan provided by some outside the household (originally Q7P3J). The description for INS_EMP applies to INS_OUT except that INS_OUT is for plans provided by someone outside the household. For those who did not have same plans as the respondent, question Q7PZA10 was used to form INS_OUT.
INS_OTH	Covered by other plans (originally Q7P3K). The description for INS_EMP applies to INS_OTH except that INS_OTH is for a plan other than the plans described above. For those who did not have same plans as the respondent, question Q7PZA11 was used to form INS_OTH.
NUMPLANS	Number of plans covered by. It is a count of how many of the above-mentioned nine types of health plans a member had. Note that in the questionnaire, Indian Health Services was also asked as one source of health coverage. However, researchers at the RAND Corporation found that Indian Health Services is not a reliable source of health coverage. They recommended treating those reported having only Indian Health Services as uninsured. SPS adopted this approach, as did the Current Population Survey by the Bureau of the Census.

PRIMCOV	Primary health plan (originally Q7P3L). The description for INS_EMP applies to PRIMCOV except that PRIMCOV was created to identify the primary plan if a member had more than one plan.
CUR_INS	Currently covered by a health plan. If NUMPLANS is equal or greater than 1, then CUR_INS is 1. If NUMPLANS is 0, then CUR_INS is 2. For disposition of the Indian Health Services, see the description for NUMPLANS.
INS97_7	Covered by health plans for 7 months or more in 1997. It was derived from question Q7P10 (months covered in 1997).
INS97_12	Covered by health plans the entire year of 1997. It was derived from question Q7P10 (months covered in 1997).
FNLWGT	Sample weight. The sample weight variable was created using the post-stratification procedure. For details of this procedure, see Technical Report No. 2. This weight variable can be used with person variables, household/respondent variables, or family variables. To use it with person variables, simply include this variable in the weight statement in the statistical software of the user's choice. To use it with household/respondent-only variables, a selection statement must be used to select the respondent records only. The respondent records are indicated by the value of "1" in the variable PNUM. For example, in SAS, the statement "where PNUM = 1;" must be used when household/respondent-only variables are used. To use it with family variables, use the variable F_PNUM to select only one record from each family. For example, in SAS, the statement "where F_PNUM = 1;" can be used.

Appendix 1
1997 Poverty Thresholds

Poverty Thresholds in 1997, by Size of Family and Number of Related Children Under 18 Years

Size of Family Unit	Related children under 18 years								
	None	One	Two	Three	Four	Five	Six	Seven	Eight or More
One Person (unrelated individual)									
Under 65 years	8,350								
65 years and over	7,698								
Two Persons									
Householder under 65 Years	10,748	11,063							
Household 65 years and over	9,701	11,021							
Three persons	12,554	12,919	12,931						
Four persons	16,555	16,825	16,276	16,333					
Five persons	19,964	20,255	19,634	19,154	18,861				
Six persons	22,962	23,053	22,578	22,123	21,446	21,045			
Seven persons	26,421	26,586	26,017	25,621	24,882	24,021	23,076		
Eight persons	29,550	29,811	29,274	28,804	28,137	27,290	26,409	26,185	
Nine persons or more	35,546	35,719	35,244	34,845	34,190	33,289	32,474	32,272	31,029

Source: U.S. Bureau of the Census